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First Things First

Know Your Land and Have a Plan
Before Starting Conservation Farming



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FIRST THINGS FIRST

KNOW YOUR LAND AND HAVE A PLAN BEFORE STARTING CONSERVATION FARMING

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We usually find that it pays to do first things first, not second or third things first or first things last. It might be possible to build a house first and put the basement and foundation under it later, but doing the excavation first is much more satisfactory.

In starting out to do conservation farming there are some steps that must be taken first if the best job is to be done. Here are the first two:

1. Find the correct use for each acre.
2. Make a plan for your farm that will put each acre to work at its best use.

These two steps are necessary if you are to have real conservation on your farm. Of course, there are other things you will need to do later, but these must come first. Some of the later steps are the use of certain soil-conserving practices such as crop rotations, contour farming, terracing,



A careful examination of the soil and the assistance of a trained soil surveyor will help you decide on the best use for each piece of land.



You don't need a soil auger to see that this field has lost some topsoil. How much it has lost will affect how you will use this field.

grass waterways, strip cropping, and others. These are the things you need to do to apply the plan made in Step No. 2.

But no matter how much protection you give your land by using conservation practices you will not be saving your soil if you use the land for something it is not capable of doing. It is like buying a fine automobile, made for carrying people over the highways, and trying to plow or mow hay with it. All the oil, antifreeze, and polishing in the world will not save the car under such conditions. It is equally foolish to try to grow corn on land which, according to the way nature made it, should be growing trees. All the rotations, terraces, or contour strips you can put on the land will not overcome the results of this mistake in use.

Step No. 1—Find the Correct Use for Each Acre

How can you know the best use for each piece of land?

Your past experience will help a lot. You probably already know a great deal about the nature of the different fields on your farm. You know the sandy spots and the rocky spots. You know the fields that stay wet in the spring or the ones that you can get into early. You may have noticed the light-colored knobs and perhaps didn't realize that the topsoil has washed away there.

An experienced soil conservation surveyor can be a big help to you in this first step. (These men are available in soil conservation districts.) With your knowledge of the farm and the soil surveyor's knowledge of how soils were formed and developed you can have a complete and accurate physical inventory of your land. The surveyor will put this information on a map of your farm and you can use it to make your plan.

Remember, the use you make of your land must be based on the way that nature made it if the land is to keep working for you permanently and profitably. The best use is usually the most profitable use in the long



Pasture is the best use for this land and steers make up to 125 pounds of good beef per acre on it.

run. For example, over a long period, trees will bring more return on some land than will wheat, corn, or grass. Here are some things that you will look for:

How deep is the soil? Soil depth is important because it determines how much soil is available from which the plant roots can get their supply of food and water. Major land uses—trees, grass, or cultivated crops—are often determined by the depth of the soil. Some soils may be so shallow that cultivated crops will not yield enough for profit, and the only profitable use will be grass or trees. This kind of land is just naturally grass land or tree land. Other land may have enough depth to be capable of being cultivated while some may be deep enough to permit even more intensive cultivation.

Therefore you will want to locate the deep soils and the shallow soils. It will make a difference what you grow in the land.

The soil conservation surveyor will help confirm your observation that some fields work better than others or that one field may be sticky and hard to get into in the spring. This has to do with the texture of the soil and how the individual soil particles are put together. He will rub some wet soil between his thumb and forefinger and tell you if it has too much clay or too much sand, or if the mixture of sand, silt, and clay is just about right.

These things make a difference in the amount of work it takes to handle a field. They affect the speed at which water moves through the soil. This makes a difference in the amount of water that runs off and therefore in the danger of erosion.

You already know pretty well how productive each part of your farm is. Yet examining the soil will give you some idea as to its natural inherent fertility, how easy it will be to build it up, whether or not it will produce such crops as alfalfa or if it would be best to grow trees and, if so, what kind of trees. Some land can be rebuilt easier than other land

after it has become eroded. It pays to know whether or not you are working with this kind. The color of the topsoil is a good indicator of this natural fertility but cannot be relied on in all cases by itself.

Amount of soil lost and the danger of erosion are other land features you will look for. These will have a lot to do with your ultimate use of the land. You are probably already aware of the thin spots in your fields. Yet it will help you to take a spade and dig holes to check the depth of remaining topsoil. Dig a hole in a cultivated field and one in an old fence row nearby. Compare the depth of the dark-colored topsoil in these places.



A.—The attempt to use steep, rocky land like this for pasture causes loss of soil, may damage lower land and drainage systems, and makes no profit for the farmer. **B.**—Trees, which are the correct use, make this land profitable and save the soil.

Slope of the land probably has more effect on erosion than any other land or soil feature although texture, fertility, and many others influence erosion indirectly. Some land slopes so much that any cultivation of the soil will result in serious erosion in spite of all that you can do to prevent it with other measures. Even just a little too much grazing or too heavy cutting of timber will have bad effects. So the slope will have a lot to do with the use you make of a field—whether for trees, grass, or grain. Gentle slopes, provided the soil is satisfactory in other ways, may be cultivated. Steep slopes may have to go into grass or trees and will be more profitable to you in the long run if used that way.

Other characteristics also affect the use you make of each piece of land. The danger of overflow must be considered. Some of our finest land cannot be cropped regularly because of this weakness. A high water table may make the land unsuitable for some crops. The same is true of alkali spots, stoniness, or a hardpan layer under the topsoil. These all have an important effect on the use you make of the land.

You cannot make a sound conservation plan for your farm without first making a land inventory any more than an architect can design a house without knowing the kind of material he has available to build it with.

Each piece of land is good for something and probably better suited to some one use than to any other. On the basis of this inventory you may decide that a given piece of land is either best suited for cultivated crops, pasture, trees, wildlife, recreation, or perhaps just scenery. Your decision should be based on all that is known about each kind of soil you have on your farm; how it behaves on various slopes; how it changes as erosion becomes more severe; how fertile, deep, and workable it is; and how air and water move through it.

This information is gained from your own experience and the experience of other farmers. It is based on results obtained at experiment stations



This level field may be highly productive but it has a problem of too much water. Will it pay to drain it? If not, how will the excess water affect your use of it? A careful examination will help find the answers to these questions.



The best use for this marsh is probably for wildlife. It might pay to construct level ditches for the benefit of muskrats.

and the experience of soil scientists, soil conservationists, and agricultural specialists. This kind of information is available to you if you live in a soil conservation district. The Federal Soil Conservation Service supplies trained soil scientists to work in these districts and to help farmers who ask assistance from the district. If you do not live in a soil conservation district this booklet tells you how to make a start on your own land inventory.

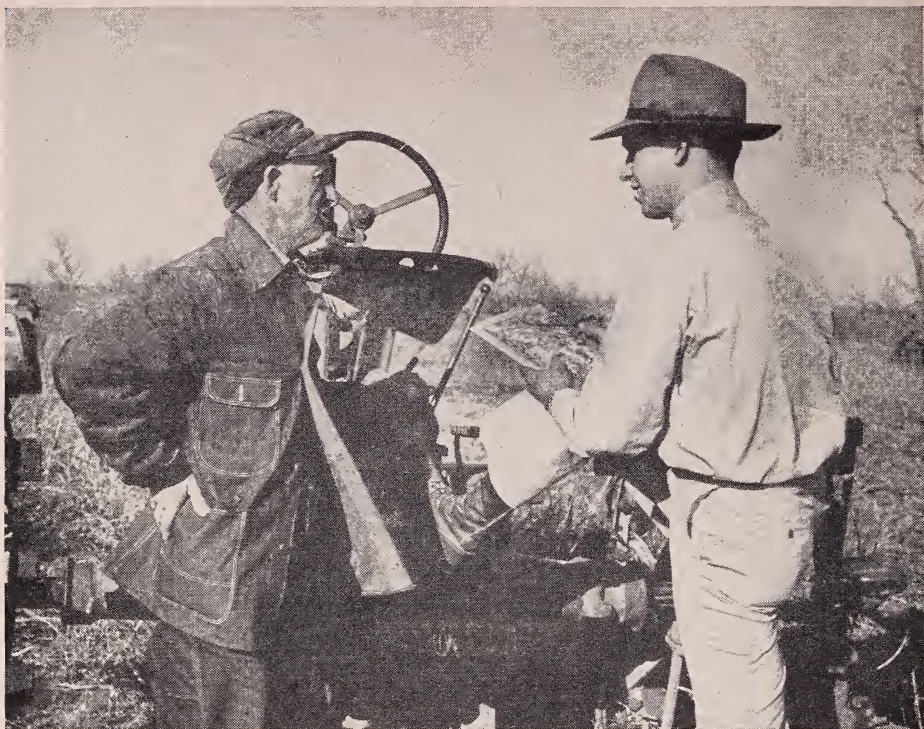
After you have made the land inventory and have determined what is the best use for each acre then you are ready for the second step.

Step No. 2—Make a Plan for Your Farm That Will Put Each Acre To Work at Its Best Use

The farm plan is a blueprint of your farm operations. It includes a field arrangement that puts each acre of land to work according to its capability. This field arrangement takes into consideration not only what each field is best fitted for but the kind of layout that will be most convenient to farm and to pasture. Land that can be cultivated is separated from land that will be used for pasture and from land that is to be used for woodland. Some wildlife land may also be separated although all the land on the farm will be used for wildlife in some form.

The crop fields will be arranged so that they can be farmed in a rotation of crops designed for the kind and amount of cropland you have. This rotation is also designed to keep up the organic matter of the soil, to maintain soil structure, and to increase production.

After planning for the safe use of each field you plan the needed supporting conservation practices which may include erosion control or drainage practices. You also decide the best time to establish them on the land.



Soil conservationist and farmer work out a complete farm conservation plan that fits the farm after the land inventory is made. This is Step No. 2 in modern conservation farming.

For example, grass waterways or terrace outlets will be graded and seeded at one time, and terraces, if terraces are needed, will be built at a later date. The location of the terraces, diversions, contour strips, waterways, ponds, and other measures is decided and marked on the map. The amount of lime and fertilizer needed, where it is needed, and when it is to be applied are also a part of the plan.

This type of information makes up the complete farm conservation plan. You can get help for making this kind of plan from the Soil Conservation Service if you live in a soil conservation district.

Now Ready To Apply Plan

After determining the correct use of the land and making a plan in accordance with this decision you are ready to begin applying the plan to the land. You are now ready to start building grass waterways, terrace outlets, relocating field boundaries, and laying out and building terraces, dams, and ponds. By following these logical steps you can be sure that the fences you build, the grass you seed, the trees you plant and the lime and fertilizer you apply will fit into the over-all plan. You can go ahead with confidence knowing that you have done the first things first.